

APPLICATION FOR UNITED STATES LETTERS PATENT

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TITLE: BIRD SCARING DEVICE

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Description

Bird Scaring Device

Field of Invention

5 This invention relates to a device for scaring birds and particularly relates to a device for scaring birds utilizing one or more silhouettes of a bird of prey. Furthermore this invention relates to a method of scaring birds including apparatus relating to same.

10 Background Art

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15 The presence of birds in certain locations has in certain circumstances created a hazard or presented an unwanted creature that can impart economic damage.

20 For example the presence of birds on or near the vicinity of airports and airbases has for many years presented a danger to aircraft. To reduce the hazard of bird strikes on aircraft there have been many devices and methods utilized in order to scare birds away from the vicinity of aircraft. One such method includes the use of live birds of prey, which scare unwanted birds away from aircraft.

25 Another example of where birds are unwanted are in agricultural fields such as vineyards or the like where the birds peck away at the fruit and plants and create economic damage.

30 By way of another example it is not uncommon for high buildings such as skyscrapers or the like particularly ones which are predominantly made of glass to present an obstacle for birds flying into such buildings many of whom die and collect at the bottom of said buildings.

 Accordingly there have been a variety of apparatus, devices and methods within which to scare birds.

For example U.S. Patent No. 4,597,376 illustrates a bird scare comprised of a sheet of aluminium suspended by a swivel and having both twist and turn edges to enable sensitive response to rotation in very light rising air as well as rotation on gentle convectional wind and high wind conditions. The sheet material includes domes impressed throughout the material to increase reflective dissipation effect.

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Another device is illustrated in U.S. Patent No. 5, 454,183 which relates to an article which comprises a resilient base member and two sections of wire mesh that are joined together where the wire sections interlock with one another along a line running above the centre line of the base member. The base of the article may be bent or otherwise deformed around another structure in order to set up the bird repeller. The base member may be imprinted with the indicia of a bird such as an owl, in order to further deter the roosting of birds.

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Furthermore U.S. Patent No. 5,181,338 illustrates a bird deterrent method and device while U.S. Patent No. 5,682,702 illustrates a collapsible bird decoy having a planar body panel, shaped like the side silhouette of a bird, and a top panel shaped like a top silhouette of a bird. The body panel and the back panel are adapted to interfit in mutually perpendicular lines to form a body which resembles a birds body when viewed from the sides or above. The wing panel extends generally outwardly from each side of the body formed by interfitting the body panel and back panel. The wing panels are preferably pivotally mounted to the body panel to pivot between a storage position in which the wings extend along the axis of the body panel, and the use position in which the wings stand vertically upwardly and can flex downwardly and outwardly from the body.

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Furthermore U.S. Patent No. 6,176,047B1 illustrates a bird deterring device while U.S. Patent No. 3, 292,319 illustrates a seagull deterrent means which comprises a self-propelled device having a rotatable hub bearing member defining a central axial passageway open at one end and adapted to be freely suspended by means of a shaft positioned within said passageway, a plurality of elongated arm members pivotally mounted and radially disposed on said hub

bearing member, said arm member extending transversally from said hub bearing member and having adjacent the end of said arm members concavo-convex shaped members with concave surfaces facing in opposite directions to effect movement of the deterrent means in a horizontal plane.

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Moreover U.S. Patent No. 4,131,079 teaches a device for scaring pests, such as birds from the area to be protected by utilizing an elongated vertically extending post, a resilient wire mounted on and extending from the upper end of the post, and a pair of large thin lightweight highly light reflective discs rotatably

10 suspended from the remote end of the wire in cantilever fashion and responsive to wind forces on the discs in order to provide a random, distracting motion as well as to cast darting light reflections in a random, erratic manner on the area surrounding the post.

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15 Furthermore U.S. Patent No. 5, 956,880 shows an apparatus for flying a flying body imitating a raptor such as a hawk and an eagle to scare birds such as doves and crows to inhibit the birds from approaching.

20 Furthermore U.S. Patent No. 4,598,660 teaches a bird scaring device while Canadian Patent No. 1,228,480 teaches a bird scarer.

It is an object of this invention to provide an improved bird-scaring device, which is easy to assemble and use

Disclosure of Invention

It is an aspect of this invention to provide a device for scaring birds comprising a silhouette of a bird of prey having at least one hole there through; a first line having one end rotatably attached to said hole.

It is another aspect of this invention to provide a device for scaring birds comprising a thin vinyl sheet profiling a bird of prey, said sheet including two holes there through; first and second grommets for reinforcing said first and second holes; a first swivel connected to said first grommet; a second swivel connected to said second grommet; a first line having an end connected to said first swivel for rotatable movement thereabouts; a second line having an end connected to said second swivel for rotatable movement thereabouts; a safety line having one end connected to said first swivel and another end connected to said second swivel.

It is another aspect of this invention to provide a method of scaring birds comprising the steps of securing the silhouette of a bird of prey in position by connecting a first swivel to a first hole in said silhouette, connecting a first end of a first line to said first swivel, connecting a second swivel to a second hole in said silhouette, connecting a first end of a second line to said second swivel; reinforcing said silhouette from breakage by connecting one end of a safety line to said first swivel and another end of said safety line to said second swivel; moving said silhouette by wind so as to scare said birds.

Description of Drawings

Fig. 1 is a representative view of a bird of prey.

Fig. 2 is another embodiment of the invention showing the bird of prey.

Fig. 3 is a representative view of a swivel in a closed position.

Fig. 4 is a representative view of a swivel in an open position.

Fig. 5 is a representative view of the invention utilized in connection with a building.

Fig. 6 is a representative view of the invention shown in connection with a kite.

Fig. 7 is a representative view of the invention used in connection with two posts.

Fig. 8 is a representative view of the invention used in combination with apparatus for suspending and rotatably moving the device.

Best Mode for Carrying Out the Invention

In the description that follows, like parts are marked throughout the specification and the drawings with the same respective reference numerals. The drawings are not necessarily to scale and in some instances proportions may have been exaggerated in order to more clearly depict certain features of the invention.

This invention relates to a device 2 for scaring birds, which generally comprises of a silhouette 4 of a bird of prey such as disclosed in Figures 1 and 2 by way of example only. Examples of birds of prey include but are not limited to owls, peregrine falcons, falcons, eagles other birds of prey. Generally speaking birds such as seagulls, crows, swallows, starlings, blackbirds, robins, finches or the like are naturally scared by such birds of prey.

The representative silhouettes or profiles 4 of the bird of prey shown in Figures 1 and 2 are cut or stamped out from a vinyl sheet of material which is relatively thin such as for example from a black sheet of vinyl which may be 1/32 to 1/64 inch thick. However, other material can be used such as plastic, metal or the like. The outer profile or silhouette of the bird of prey is cut as shown for

example in Figures 1 and 2 and such silhouette or profile **4** has at least one hole fixed there through. In the embodiment shown in Figures 1 and 2 there are at least two holes cut there through and are adapted to receive lines **10** for relative rotatable movement there between in the manner to be more fully described herein.

Each of the holes **6** includes a grommet **8** so as to reinforce the hole therein against tearing of the line **10**. However, other reinforcing means can be used, such as thickening the area of the vinyl or the like.

In the embodiment shown in Figure 1 the device **2** includes a first line **10a**. As more fully shown in Figures 1 and 2 the first line **10a** has one end **12a** rotatably attached to the first hole **6**. A second line **10b** has one end **12b** rotatably attached to the second hole **6**. There is also a third line **10c** which is rotatably attached to the first and second lines **10a** and **10b**. In particular the lines **12a** and **12b** are rotatably attached to the first and second holes **6**, **6** by means of a swivel **20** which is illustrated in Figure 3. The first swivel **20a** is attached to the first hole **6** and the second swivel **20b** is attached to the second hole **6**. The swivel shown in Figure 3 is a representative view of a swivel as other arrangements of swivels may be utilized within the spirit of this invention. The swivel **20** is characterized in that the swivel includes hole-attaching means **22** which in the arrangement shown in Figure 3 comprises of a releasable clip **22** shown in the open position in Figure 4. The clip **22** is adapted to be inserted into the hole **6** and then manipulated so as to be displaced in the locking position as shown in Figure 3. In this way the swivel is secured to the hole **6** as shown in Figures 1 and 2. The swivel also includes rotatable means **24** which freely permits the rotatable means **24** to rotate in a direction A without tangling the line **10** relative to the hole **6**.

The device **2** also includes a third safety line **10c** which is rotatably attached to the first and second lines **10a** and **10b** as more fully shown in Figure 2. In particular the safety line **10c** is attached to the clip **22** and has been added so that if the line **10a** rips away from the hole **6** then the entire line **10** is still

secured and prevents the bird of prey from flapping in the wind. For example if there is severe stress applied unto the line **10** so as to cause the grommet **6** to rip through the vinyl material so that the line **10a** or the first swivel **20a** rips away from the first hole **6** there will still be continuity between the line **10a**, **10b**, and **10c** so that the bird of prey does not fall to the ground or be left dangling in the wind.

One application of the device **2** described herein can be utilized so as to hang from a tall building as shown in Figure 5. In such arrangement the first line **10** has another end **14a** which is adapted to be attached above ground such as for example the top of a building, while the other end **14b** has another end adapted to be attached in the ground or the like. In such arrangement the device **2** is secured as shown in Figure 5 such that the wind or other airflows will cause the bird of prey to rotate about the line **10**. Such rotation simulates the movement of a bird of prey and tends to scare of a bird **30**. Furthermore since the device **2** is comprised of a vinyl material which is shiny this enhances the visibility of the bird of prey to the bird **30**. Furthermore as the device **2** rotates about the line **10** the shiny surface of the bird of prey **2** will reflect light against the windows **40** of a building which reflects the image of the bird of prey against the windows **40** thus tending to enhance again the visibility of the bird of prey to the bird **30** so as to scare the bird **30** away. Furthermore each of the window panes can reflect an image of the lines so that instead of one bird of prey reflected there are a plurality of reflected bird's of prey.

By utilizing the swivels **20** the bird of prey, as it catches the wind, rotates about the line **10** in a random manner. By utilizing swivels **20** the bird of prey tends to rotate about the swivel **20** in the direction A which generally tends to be in a rotational direction generally perpendicular to the line **10**. This swivel **20** tends to minimize the possibility of the bird of prey **2** from being entangled around the line **10** as it rotates and flaps in the wind. By utilizing the swivel **20** the bird of prey freely rotates around the line **10** and the chances of entangling the bird of prey **2** about the line is minimized.

Moreover by utilizing the safety line **10c** one end of the safety line **11c** is attached to the clip **22** of the first swivel **20a** while another end **13c** of the safety line **10c** is attached to the clip **22** of the second swivel **20b**. As stated above in the event that one of the swivels **20** or for that matter one of the grommets **8** rip away from the vinyl material the safety line **10c** will continue to connect the first line **10a** to the second line **10b** so that the device **2** will remain in the air as shown in Figure 5. This minimizes the possibility of the device **2** from falling down and hitting a passerby or the device **2** up in the air with the line broken.

The ends of the line **10** may be tied to the swivel **20** as shown while the safety line **10c** may also be tied to the clips as shown.

Accordingly in the operation shown in Figure 5 the device **2** will tend to scare away birds **30** minimizing the prospect of a bird **30** flying into the windows **40** of a building and thereby leaving a mess at the bottom thereof.

Moreover the device **2** as described herein may be utilized in connection with a kite **50** as shown in Figure 6. Such arrangement can be utilized so as to scare away birds from a crop such as grapes or the like. The arrangement shown in Figure 6 works well; but Figure 6 shows a further embodiment where a loop **7** can be incorporated in the line **10b** with a swivel **20** and the device **2**, which is useful when the tension is on the line that can pull apart the grommets. With the loop one minimizes the tension in the grommets.

Another arrangement of the invention is shown in Figure 7 whereby the line **10** is stretched across two posts **60** and **62** whereby the device **2** freely rotates relative to line **10** so as to scare birds or other pests away from a selected area such as crops or the like.

Furthermore other arrangements of the device **2** can be utilized in combination with an apparatus **70** for suspending and rotatably moving the device **2** thereabout as shown in Figure 8. Such apparatus **70** can include a central post **72** with a plurality of extending arms **74** at the top end **76** thereof.

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Various embodiments of the invention have now been described in detail. Since changes in and/or additions to the above-described best mode may be made without departing from the nature, spirit or scope of the invention, the invention is not to be limited to said details.